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Title: Makeup Cosmetic Composition

Application No.: Sho 59-279161

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Specification

1. Title of the Invention

Makeup Cosmetic Composition

2. Claim

(1) A makeup cosmetic composition characterized by containing an organic silicone resin expressed by the below-recited (A) in an amount of 1-70 % by weight; a volatile hydrocarbon oil expressed by the below-recited (B) in an amount of 10-98 % by weight; and a powder in an amount of 0.5-55 % by weight.

(A) An organic silicone resin composed of units of average formula $R_nSiO_{\frac{4-n}{2}}$ (R represents a hydrocarbon radical having 1-6 carbon atoms or a phenyl group, and n represents a value of from 1.0 to 1.8).

(B) A volatile hydrocarbon oil having a boiling point at room temperature in the range of 60-260 °C.

3. Detailed Description of the Invention

[Field of Industrial Applicability]

The present invention relates to a makeup cosmetic composition, more specifically to a makeup cosmetic composition having good water resistance, perspiration resistance and oil resistance, and having excellent cosmetic durability.

For the purposes of the present invention, makeup cosmetic compositions include, in addition to normal makeup cosmetic compositions, cosmetic foundations used as the foundations therefor.

[Prior Art]

Makeup cosmetic compositions include a variety of formats and types such as solid foundations, solid eyeshadows, oily foundations and rouges formed by blending powders with oil components. Additionally, while there are emulsive foundations which have an emulsion base, all of these are characterized by containing large amounts of inorganic powders such as talc, kaolin, iron oxide, titanium oxide, titanium and mica-type pearl pigments, and organic pigments such as nylon, cellulose and tar pigments.

With these makeup cosmetic compositions, sebum, perspiration, or other oil components of cosmetic compositions can cause cosmetic breakdown such as clumping and flowing. In particular, cosmetic breakdown which commonly occurs under the high-temperature, high-humidity conditions of summertime has been a cause for distress among women, and improvements have been desired.

Although a technique of using ethylhydroxyethylcellulose as a film forming agent (Japanese Patent Application, First Publication No. Sho 53-62994) is known for making a makeup cosmetic composition with good water resistance and oil resistance, it is not satisfactory with regard to cosmetic durability in actual use.

On the other hand, while cosmetic foundations are used for the purpose of improving the hold or beautifying the finish of makeup cosmetic compositions, few take the cosmetic durability of the makeup cosmetic compositions into consideration.

[Problems to be Solved by the Invention]

In view of these considerations, the present inventors performed diligent research with the aim of obtaining a makeup cosmetic composition with exceptional cosmetic breakdown prevention effects, as a result of which they discovered that a makeup cosmetic composition which is easy to spread, has a refreshing sensation upon use and has good cosmetic breakdown prevention effects can be obtained by using a specific organic silicone resin together with a volatile hydrocarbon oil and adding a powder thereto, and achieved the present invention based on this discovery.

[Means for Resolving the Problems]

That is, the present invention is a makeup cosmetic composition characterized by containing an organic silicone resin expressed by the below-recited (A) in an amount of 1-70 % by weight; a volatile hydrocarbon oil expressed by the below-recited (B) in an amount of 10-98 % by weight; and a powder in an amount of 0.5-55 % by weight.

- (A) An organic silicone resin composed of units of average formula $R_nSiO_{\frac{4-n}{2}}$ (R represents a hydrocarbon radical having 1-6 carbon atoms or a phenyl group, and n represents a value of from 1.0 to 1.8).
- (B) A volatile hydrocarbon oil having a boiling point at room temperature in the range of 60-260 °C.

The organic silicone resins expressed by (A) above used in the present invention are composed of a suitable combination of $R_3SiO_{\frac{1}{2}}$ units, R_2SiO units, $RSiO_{\frac{3}{2}}$ units and SiO_2 units, the proportions of which are selected such as to satisfy the average formula $R_nSiO_{\frac{4-n}{2}}$ (wherein n denotes a value of from 1.0 to 1.8), and preferably have an average molecular weight of approximately 1500-10000.

The above-mentioned organic silicone resins are soluble in benzene, and can be produced by various methods. One example is to add compounds expressed by general formulas R_3SiX , R_2SiX_2 , $RSiX_3$ and SiX_4 (wherein X is a hydrolyzable group such as a chlorine, a bromine, a fluorine, an alkoxy group such as methoxy

or ethoxy, or an acyloxy group) to a suitable solvent such as toluene, benzene or xylene depending on the desired resin composition, then to add this solution to water in an amount sufficient for the desired hydrolysis and cocondensation in a suitable acidic solvent. By removing the aqueous phase from the two-phase system obtained in this way, and neutralizing the residual resinous substance by using a sufficient amount of sodium bicarbonate or other alkaline substance, then removing the solvent, it is possible to obtain the desired organic silicone resin.

The content of the organic silicone resin in the present invention is 1-70 % by weight of the entire skin cosmetic composition.

Additionally, the volatile hydrocarbon oil used in the present invention is a hydrocarbon oil having a boiling point at room temperature in the range of 60-260 °C, for example, Isoper (registered trademark) A, C, D, E, G, H, K, L or M (Exxon Corp.), Shellsol (registered trademark) 71 (Shell Corp.), or Soltrol (registered trademark) 100, 130 or 220 (Philip Corp.).

These are all volatile, and are capable of being solvents for organic silicone resins.

The content is 10-98 % by weight of the entire skin cosmetic composition.

Additionally, the powder used in the present invention is any powder normally used in makeup cosmetic compositions, for example, inorganic powders such as talc, mica, kaolin, calcium carbonate, zinc oxide, titanium dioxide, red iron oxide, yellow iron oxide, black iron oxide, ultramarine blue, prussian blue, chrome hydroxide, bismuth oxychloride, titanium and mica-type pearl pigments, organic powders such as Red No. 201, Red No. 202, Yellow No. 5 aluminum lake and Blue No. 1 aluminum lake, resin powders such as nylon, cellulose and polyethylene, and various metallic soaps.

The content is 0.5-55 % by weight of the entire makeup cosmetic composition.

Of course, it is possible to form oil-in-water or water-in-oil emulsive makeup cosmetic compositions while retaining the cosmetic breakdown prevention effects by adding aqueous components and suitable surfactants to the essential components described above by making use of emulsion techniques.

Aside from the above, it is possible to further add fats and oils, waxes, pharmaceuticals, fragrances, or other volatile components to the makeup cosmetic

composition of the present invention depending on the purpose, within a weight and mass range such as not to degrade the effects of the present invention.

Hereinbelow, the present invention shall be explained in further detail by means of examples. The present invention is not restricted by these. The contents are all given in % by weight.

Example 1 Oily Foundation

- | | | |
|-----|--|---------|
| (1) | kaolin | 25.0 |
| (2) | titanium dioxide | 15.0 |
| (3) | iron oxide | 3.0 |
| (4) | microcrystalline wax | 4.0 |
| (5) | fluid paraffin | 5.0 |
| (6) | sorbitan sesquioleate | 1.0 |
| (7) | organic silicone resin expressed by the average formula $(CH_3)_{1.8}SiO_{1.1}$, having a molecular weight of approximately 3000 and composed such that $(CH_3)_3SiO_{\frac{1}{2}}$ units : SiO_2 units = 1.5 : 1 | 2.0 |
| (8) | Isoper™ E (boiling point 116-143 °C) | balance |
| (9) | fragrance | s.a. |

After mixing (4)-(8) at 70-80 °C to dissolve, (1)-(3) were added and dispersed. After deaeration, (9) was added and the result was filled into a prescribed container to obtain an oily foundation.

The oily foundation of Example 1 was a makeup cosmetic composition with exceptional water resistance, oil resistance and perspiration resistance, little makeup breakdown, and with a refreshing sensation upon use.

Comparative Example 1 Oily Foundation

- | | | |
|-----|-----------------------|------|
| (1) | kaolin | 25.0 |
| (2) | titanium dioxide | 15.0 |
| (3) | iron oxide | 3.0 |
| (4) | microcrystalline wax | 4.0 |
| (5) | fluid paraffin | 5.0 |
| (6) | sorbitan sesquioleate | 1.0 |

- (7) ethylhydroxyethylcellulose 10.0
- (8) ethanol 10.0
- (9) Isoper™ E (boiling point 116-143. °C) balance
- (10) fragrance s.a.

After mixing (7) and (8) at 70-80 °C to dissolve, (9) was dispersed and (4)-(6) were added and heated to melt. After adding (1)-(3) and blending uniform, deaerating, then adding (10) and mixing, the result was filled into a prescribed container to obtain an oily foundation.

The following evaluation was performed on Example 1 and Comparative Example 1.

Filter paper which had absorbed water or squalene was prepared, then a nylon board coated with Example 1 or Comparative Example 1 and dried was pressed thereon, and moved up and down ten times. After completion of the up and down movement, the amount of the sample transferred to the filter paper was judged by the naked eye according to the darkness of the color.

[ratings]

- 1 Absolutely no transfer.
- 2 Slight transfer.
- 3 Considerable transfer.

The results are expressed as an average value of a total of five experimental measurements.

Table 1

	Water	Squalene
Example 1	1.0	1.0
Comparative Example 1	2.2	2.8

The results demonstrate that even in comparison to Comparative Example 1 which is a conventional durable oily foundation, Example 1 was less susceptible to

transfer to water or squalane, that is, it was a makeup cosmetic composition with exceptional cosmetic durability with good water resistance and oil resistance.

Example 2 Liquid Rouge

- | | | |
|-----|--|------|
| (1) | Isoper™ A (boiling point 66-70 °C) | 20.0 |
| (2) | Soltrol™ 220 (boiling point 240-260 °C) | 20.0 |
| (3) | organic silicone resin expressed by the average formula $(CH_3)_{1.6}SiO_{1.5}$, having a molecular weight of approximately 5000 and composed such that $(CH_3)_3SiO_{\frac{1}{2}}$ units : SiO_2 units = 0.5 : 1 | 40.0 |
| (4) | glyceryl triisostearate | 10.0 |
| (5) | Red No. 226 | 10.0 |
| (6) | fragrance | s.a. |

(1)-(3) were mixed to dissolve at 50-60 °C, then (4) and (5) which were separately roller-processed were added and the result blended. After deaeration, (6) was added to obtain a liquid rouge.

The liquid rouge of Example 2 had exceptional water resistance, oil resistance and perspiration resistance, and cosmetic breakdown such as due to adherence to cups was rare. The sensation upon use was also refreshing.

Example 3 Mascara

- | | | |
|-----|--|------|
| (1) | Shellsol™ 71 (boiling point 173-195 °C) | 4.5 |
| (2) | organic silicone resin expressed by the average formula $(CH_3)_{1.33}SiO_{1.34}$, having a molecular weight of approximately 2000 and composed such that $(CH_3)_3SiO_{\frac{1}{2}}$ units : SiO_2 units = 0.8 : 1 | 70.0 |
| (3) | black iron oxide | 15.0 |
| (4) | P.O.E. (20 moles) sorbitan monolaurate | 0.5 |
| (5) | fragrance | s.a. |

(1)-(3) were mixed to dissolve at 70-80 °C, then (4) and (5) were added and blended. After deaeration, (6) was added to obtain a mascara.

The mascara of Example 3 had little cosmetic breakdown due to tears and the like, and did not adhere to the eyelids.

Example 4 Cosmetic Foundation

(1)	kaolin	10.0
(2)	titanium dioxide	5.0
(3)	red iron oxide	0.3
(4)	yellow iron oxide	0.2
(5)	methylphenylpolysiloxane ($n = 100$)	20.0
(6)	Soltrol™ 100 (boiling point 160-175 °C)	10.0
(7)	solid paraffin	5.0
(8)	microcrystalline wax	4.0
(9)	sorbitan sesquioleate	1.0
(10)	organic silicone resin expressed by the average formula $(CH_3)_{1.23}(C_6H_5)_{0.18}SiO_{1.30}$, having a molecular weight of approximately 3000 and composed such that $(CH_3)_3SiO_{\frac{1}{2}}$ units : $(C_6H_5)SiO_2$ units : $(C_6H_5)SiO_{\frac{3}{2}}$ units : SiO_2 units = 0.9 : 0.1 : 0.2 : 1	2.0
(11)	Isoper™ H (boiling point 171-193 °C)	24.5
(12)	fragrance	s.a.

(1)-(4) were pulverized and mixed. Separately, (5)-(11) were mixed and dissolved at 70-80 °C. The two were blended together, then deaerated, after which (12) was added to obtain a cosmetic foundation.

The cosmetic foundation of Example 4 improved the adherence of makeup cosmetic compositions applied thereover, and had the effect of suppressing cosmetic breakdown.

Example 5 Highlighter

(1)	Soltrol™ 130 (boiling point 170-208 °C)	95.0
(2)	organic silicone resin expressed by the average formula $(CH_3)_{0.30}(C_6H_5)_{0.85}SiO_{1.43}$, having a molecular weight of approximately 8000 and composed such that $(C_6H_5)SiO_{\frac{3}{2}}$ units : $(CH_3)_2SiO$ units = 5.67 : 1	4.5

- | | | |
|-----|-----------------------------|------|
| (3) | titanium-mica pearl pigment | 0.5 |
| (4) | fragrance | s.a. |

(1) and (2) were heated to melt, then (3) and (4) were added and blended to obtain a highlighter.

Example 5 was a highlighter having little cosmetic breakdown and a refreshing sensation upon use.

[Effects of the Invention]

The makeup cosmetic composition of the present invention is a makeup cosmetic composition with good water resistance, perspiration resistance and oil resistance, exceptional cosmetic durability, and little cosmetic breakdown. Furthermore, the sensation upon use was exceptional with good spreadability and a refreshing feeling.

Amendments (voluntary)

May 17, 1985

Mr. Manabu SHIGA
Commissioner, Japanese Patent Office

1. Case Identification

Japanese Patent Application No. Sho 59-279161

2. Title of Invention

Makeup Cosmetic Composition

3. Amending Party

Relationship to case: Applicant for patent

Address: 5-5, Ginza 7-chome, Chuo-ku, Tokyo

Name: (195) KK SHISEIDO

Representative: Yoshio OHNO

4. Subject of Amendments

Claim and Detailed Description of Invention

5. Amendments

- (1) Please amend the claim as per the attached sheet.
- (2) On page 4, line 10 of the specification, please amend "room temperature" to "standard pressure".
- (3) On page 5, line 16 of the specification, please amend "room temperature" to "standard pressure".

(Attachment)

2. Claim

(1) A makeup cosmetic composition characterized by containing an organic silicone resin expressed by the below-recited (A) in an amount of 1-70 % by weight; a volatile hydrocarbon oil expressed by the below-recited (B) in an amount of 10-98 % by weight; and a powder in an amount of 0.5-55 % by weight.

(A) An organic silicone resin composed of units of average formula $R_nSiO_{\frac{4-n}{2}}$ (R represents a hydrocarbon radical having 1-6 carbon atoms or a phenyl group, and n represents a value of from 1.0 to 1.8).

(B) A volatile hydrocarbon oil having a boiling point at standard pressure in the range of 60-260 °C.